

## 1 Introduction

Credit from the Grameen Bank (GB) has enabled many poor women to engage in income-earning activities. This article examines the impact of this process on their relative well-being. For the purposes of the present study, women's well-being (relative to men's) has been defined in terms of three sets of capabilities: (i) the degree of autonomy with which women can live their lives, (ii) their ability to control decision making within the family, and (iii) their relative access to household resources, such as food, education, healthcare, etc.

## 2 The Theoretical Model

In order to carry out this assessment, it is necessary to have a theoretical framework regarding intra-household decision making. The unitary models and the collective models are the two major types of household models found in the economic literature.

The unitary model is the traditional household model of standard neoclassical economics. In it, a household is represented as a single entity with a single preference ordering. The most well-known model of this kind is due to Becker (1981). A major limitation of these models is that they do not account for women's subordination in patriarchal societies. A common prediction of all variants of the unitary model is 'income pooling' which suggests that intra-household allocation of resources depends on the total pooled income of all members rather than which member controls which portion of the income (Chiappori 1992; Haddad *et al.* 1994; McElroy 1992). Recent evidence from both developed and developing countries contradicts this prediction (e.g. Pitt *et al.* 1990; Thomas 1992).

In view of these limitations of the unitary models, economists have been engaged in developing new types of household models in which the conflict of preferences and asymmetric power relations can be readily accommodated. For the present study, the bargaining model of the household as extended by Sen (1990) is considered most appropriate. The

<sup>1</sup> An earlier version of this article was presented as a paper at the PRUS Workshop on 'Recent Research on Micro-finance: Implications for Policy', in February 1998.

# Impact of Credit on the Relative Well-Being of Women

*Evidence from the  
Grameen Bank*

**Lutfun N. Khan Osmani**

IDS Bulletin Vol 29 No 4 1998

relationship between men and women in a household is characterised by both co-operation and conflict. As a consequence, what is needed is a model of what Sen has called 'co-operative conflict'. The bargaining model is ideally suited to derive the implications of co-operative conflict for intra-household behaviour.

According to the bargaining model, women's relative well-being depends on the relative bargaining power of the spouses. In the traditional bargaining models, the bargaining power in turn depends on the individual's respective *breakdown* positions (Nash 1950). *Breakdown position* represents the welfare of individuals in the event of a breakdown of co-operation. It shows the strength or vulnerability of a person in the bargaining process. If the breakdown of negotiations would have disastrous consequences for a person, he/she would be eager to accommodate the other person's interest in order to save the negotiation from breaking down. This would ensure that the other person would gain an upper hand at his/her expense, when the final outcome is settled. The stronger the breakdown position of an individual, the stronger her bargaining power and hence the better her welfare outcome.

Sen (1990) has argued that, in the context of traditional societies, the traditional bargaining model of the household needs to be extended to allow for the possibility that the bargaining outcome may depend as much on perceptions as on the objective realities of breakdown position. In particular, he emphasises the importance of individuals' *perceived contribution* to the household and their *perceived self-interest*. Though women usually work harder and longer hours, they do not perceive themselves (and are not perceived by others) to be making much contribution since much of their work makes no direct financial contribution to the family. This perception may be unjustified, but so long as the perception exists, women will find themselves in a weak bargaining position and, therefore, end up with a lower level of well-being. Similarly, their bargaining position is also weakened by their distorted perception of self-interest. Women do not take their self-

interest seriously, because in the process of socialisation within the patriarchal culture, they themselves come to internalise the norms of discrimination against them.

Thus, in the extended version of the bargaining model, the relative well-being of men and women depends on three determinants of bargaining power: viz. their respective *breakdown* positions, their *perceived contribution* to the family; and their *perceived self-interest*. This extended model has been adopted in the present study.

It follows from this model that any intervention that improves the breakdown position of women, or increases their perceived contribution to the household, or enhances their perception of self-interest, will strengthen their bargaining power and improve their well-being. Credit from the Grameen Bank is precisely such an intervention. The central hypothesis of this study is that the income-earning activities made possible by credit should strengthen all three determinants of women's bargaining power and thereby improve their relative well-being. The causal pathways of this process are depicted in Figure 1.

### 3 Study Methodology

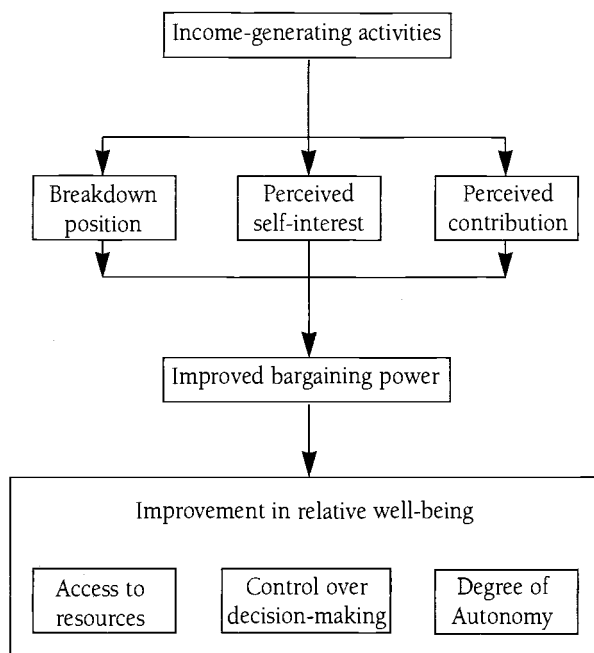
The study is based on the information collected from a household-level survey during July–October 1993 in the area served by the Hemnagar branch of the Grameen Bank in district Tangail, Bangladesh. The total sample size of 100 households was to consist of two equal sub-samples of (i) the project group – households from which the wife had borrowed money from the Grameen Bank and continued to be a borrower at the time of the survey, and (ii) the control group – households from which no women had ever borrowed money from the Grameen Bank or similar institutions. Subsequently, however, a number of households had to be dropped from each group because:

(i) in both project and control groups, some households were found to be involved in activities initiated by some NGOs;<sup>2</sup> they had to be excluded in

<sup>2</sup> Non-Governmental Organisations have become very active in the developing countries in the last couple of decades. Many of them provide credit. Besides, they also organise many social and other welfare activities to help

the poor and particularly poor women. For example, Bangladesh Rural Advancement Committee organises activities for rural women. CARE, ADAB, UNICEF also have different programmes for the rural poor.

**Figure 1: Flow Chart**



order to capture the effects of involvement with the Grameen Bank.

(ii) it was necessary to exclude female-headed households, i.e. those households in which the husband was either dead, or divorced, or worked and lived away from home. Since the purpose of this study is to assess the well-being of women within a theoretical framework of implicit bargaining between husband and wife, it was necessary to include only such families in which both spouses lived together.

(iii) some households of the project group were found to be not directly utilising the loan for their own productive activities. They had instead lent the money to some other households; in return, they were getting some fixed amount of money at regular interval by way of interest. Although this amounts to an indirect utilisation of a loan, it was felt that the impact of such a loan on the status of women would be very different from the case where the money was being used for own productive activities. Such households were, therefore, excluded.

(iv) in the control group, some households were found to have no productive activity of their own; the old couples were living off the remittance income received from their sons. Since no income was being generated by the couple themselves, and since only two persons were resident in the household, the relationship between them was likely to be different from what would be expected in those families that are usually actively involved in decision making in every sphere of life, e.g., production decisions, bringing up of children, their education and marriage. Since it is the intention of the present study to investigate, among other things, the effect of Grameen Bank on women's control over decision making in these spheres, such households had to be dropped.

This process of elimination finally yielded a sample size of 84 households – half of them belonging to the project group and the other half to the control group. Comparing the situation of women in the project group with those in the control group constituted the basic methodology of assessing the impact of Grameen Bank on women's relative well-being.

The statistical methodology used for this purpose was chosen keeping in mind two possible complications. First, the observed difference between the two groups of women may at least partly arise from the confounding effects of other variables. Multiple regression analysis was used to control for these confounding effects. Second, any observed association between participation and well-being may be vitiated by a possible self-selection bias. The simultaneous equation method was used to overcome this problem.

The problem of self-selection bias should perhaps be elaborated a little. Suppose it is observed from data that women in the project group do indeed have greater bargaining power and greater well-being compared to those in the control group, after adjusting for the effects of other variables such as education, occupation, land ownership, etc. Can it be concluded that project participation led to greater bargaining power? Not necessarily, because it is quite possible that the women who joined the Grameen Bank also enjoyed greater bargaining power within the household to begin with. In other words, women with greater bargaining power may have self-selected themselves as members of the Grameen Bank. This is a distinct possibility in the prevailing cultural conditions in rural Bangladesh where women's involvement in activities outside home is still frowned upon. It is very likely that in this cultural climate only those with greater initial bargaining power will come forward to join the Bank, because they are the ones who have the required autonomy and self-confidence to defy the cultural norms.

If such self-selection happens, then the observed fact that project participants have greater bargaining power would not necessarily mean that participation caused greater bargaining power; it may simply reflect the fact that greater bargaining power caused project participation.

Thus, the problem with 'self-selection' is essentially that it introduces a reverse causation. Econometrically, this means that the estimated impact of project participation may be subject to the so-called simultaneity bias – the estimate will suffer from an upward bias because it will capture the joint impact of both reverse causation and the hypothesised causation, if there is any.

Use of the simultaneous equation model can tackle this problem. Two-stage estimation of a simultaneous equation model enables one to avoid the confounding effect of reverse causation. Technically speaking, one can obtain a 'consistent' estimate of the true parameter, which in this case essentially means that if the sample is sufficiently large, then one should be able to obtain an estimate of Grameen Bank's impact that does not suffer from the reverse causation bias induced by self-selection. Accordingly, the present study has consistently used the two-stage estimation procedure. Most of the existing studies on the Grameen Bank and similar institutions do not take care of the self-selection problem in this manner.

One final methodological point is worth making. Many of the dependent variables in this study do not permit easy quantification – for example, perceived contribution and perceived self-interest in the context of assessing the impact of Grameen Bank on women's bargaining power, and women's autonomy and their control over decision making in the context of assessing the impact on well-being. Ideally, prolonged and intensive observation of an anthropological nature is needed to assess such impacts. But time and resource constraints did not permit this procedure. As an alternative, special questions had to be devised to elicit the necessary information through a one-shot questionnaire, and qualitative variables were constructed on the basis of answers to those questions.

## **4 The Impact of Grameen Bank: The Major Findings**

The impact of Grameen Bank was assessed by using a dummy variable for project participation as one of the regressors. Some regressions also used interaction terms between project participation and occupation, and some used interaction between project participation and income.

### **4.1 Impact on household income**

Before reporting the findings on women's relative well-being, we digress a little by reporting the impact of participation on household income in order to give a sense of the income-augmenting aspect of GB credit, which is a matter of interest in itself. After all, GB was initiated to reduce poverty of the rural poor. But it does have an indirect impact

on women's well-being. As we all know, intra-household discrimination is sharp under conditions of scarcity and less so in periods of affluence. Surprisingly, the Grameen Bank dummy was not found to be significant in the regression for household income. However, the interaction term between Grameen Bank dummy and household occupation was significant. This shows that the impact of participation is positive only for those project households whose primary occupation was 'self-employed non-farm activities'. That is, Grameen Bank credit ensures higher income if credit is used productively in non-farm self-employed activities. Many former studies have found a generally positive impact of project partic-

ipation on household income (Hossain 1988; Rahman 1986; Pitt and Khandker 1996). Our finding adds an important qualification: the benefit of higher income goes only to those who are already experienced in non-farm self-employed activities.

We now turn to the main issue, namely, testing the hypothesis that involvement with the Grameen Bank improves women's relative well-being. The test was carried out in two parts: an indirect test and a direct test. In the indirect test, we assessed the impact on women's bargaining power; in the direct test, we looked at the impact on the outcome of the bargaining process as measured by the three components of relative well-being mentioned earlier. The results are summarised in Table 1.

**Table 1: The Impact of Grameen Bank (GB) Participation**

Impact variable	Significance of GB
Household income	Positively significant only for those participants who are self-employed in non-farm sector
<b>Indirect test: impact on women's bargaining power</b>	
<b>(1) Breakdown position</b>	
(a) Land owned by wife	Positively significant; the impact is stronger at higher levels of income
(b) Other assets owned by wife	Positively significant
(c) Whether wife can support herself	Positively significant
<b>(2) Perceived contribution</b>	
(a) Workload	Not significant
(b) Overall family welfare	Not significant
<b>(3) Perceived self-interest</b>	Not significant
<b>Direct test: impact on women's relative well-being</b>	
<b>(1) Autonomy</b>	Positively significant; the impact is stronger at higher levels of income
<b>(2) Control over decision making</b>	
(a) Overall	Not significant
(b) Family planning	Positively significant
<b>(3) Access to resources</b>	
(a) Subjective	Positively significant
(b) Objective	
(i) Food consumption	Positively significant
(ii) Personal effects	Not significant

## 4.2 Indirect test: impact on women's bargaining power

This test comprised a number of separate tests on the three determinants of bargaining power: breakdown position, perceived contribution and perceived self-interest.

### Breakdown position

Breakdown position was measured by three indicators: (a) land owned by the wife in her own name, (b) the wife's non-land assets, and (c) whether the wife thinks she can support herself if left alone. In terms of all three indicators, breakdown position was found to be strengthened by participation in Grameen Bank; in the case of land ownership the impact was stronger for women in households at higher levels of income.

### Perceived contribution

Two indicators were used to determine women's perceived contribution to the family. One involved their perceived contribution in terms of workload. The other involved their perceived contribution in terms of overall income and welfare of the family. Grameen Bank participation was found to have no effect on either indicator.

### Perceived self-interest

We tried to assess how women perceive their self-interest by asking them how they felt about the fact that women generally receive a smaller share of household resources such as food, healthcare and education. Those who considered this to be unfair were given a higher score in terms of perceived self-interest than those who thought it was fair, or who were indifferent. These scores were then regressed on Grameen Bank participation and other variables. The Grameen Bank dummy was found to be insignificant, i.e. project participation did not improve women's perceived self-interest.

## 4.3 Direct test: impact on women's relative well-being

Women's well-being was measured by three sets of capabilities: (a) women's autonomy, (b) their control over household decision making, and (c) their relative access to resources. Separate tests were carried out on each of them.

### Autonomy

Autonomy was measured by women's ability to

spend family income freely. Grameen Bank participation was found to have a significant positive impact on this variable. The interaction term between project participation and household income had a significantly positive coefficient, which suggests that autonomy improves more for women of households at higher income levels.

### Control over decision making

An index of women's control over decision making was constructed by asking them questions about a large number of household matters needing decisions – e.g. those relating to expenditure on food, healthcare, children's education, children's marriage, acquisition and disposal of household assets and liabilities, reproductive decisions, maintaining contact with in-laws, etc. Involvement with Grameen Bank was found to have no impact on this index; however it did have a positive impact on one aspect of decision making, namely, family planning decisions.

### Access to resources

To assess the impact on women's access to resources, both subjective and objective information was used. First, women were asked whether they felt that the females in their households had the same access as men to household resources such as food and healthcare. Second, information was collected on consumption of food and personal effects by husband and wife. Overall, involvement with the Grameen Bank was found to have a positive impact on women's relative access to resources – by both subjective and objective criteria – with the exception of personal effects.

## 5 Summary and Conclusion

The impact of Grameen Bank on women's relative well-being has been assessed in this study by comparing the situation of women who participated in activities financed by the Grameen Bank with the situation of those who did not. The bargaining model of the household provided the theoretical framework for this assessment. According to this model, the relative well-being of women depends on their relative bargaining power within the household. Accordingly, the study proposes the hypothesis that credit from the Grameen Bank improves women's well-being by strengthening their bargaining power.

The impact was assessed in two parts – indirect and direct. The indirect assessment looked at the impact on the determinants of women's bargaining power within the household. Since, according to the theoretical framework adopted in this study, women's relative well-being depends on their relative bargaining power, the impact on the determinants of bargaining power gives an indirect indication of the impact on relative well-being. In addition, a direct assessment was also made, looking at the impact on various indicators of women's relative well-being.

The statistical methodology used for this assessment was chosen keeping in view two possible complications. First, the observed difference between the two groups of women may arise at least partly from the confounding effects of other variables, and, second, any observed association between participation and well-being may be vitiated by a possible self-selection bias. Multiple regression analysis was used to control for the confounding effects of other variables and simultaneous equation method was used to guard against the self-selection bias.

The combined results of indirect and direct assessment show that by providing access to credit, the Grameen Bank has partially succeeded in improving women's relative well-being. The indirect tests show that project participation has improved women's bargaining power by exerting a positive effect on one of the three determinants of their bargaining power: i.e. their breakdown position. However, there was no discernible improvement in other two determinants of bargaining power: perceived contribution and perceived self-interest.

Direct tests on the three components of relative well-being – women's autonomy, their control over decision making within the household, and their relative access to household resources – also give an indication of partial improvement, with positive impact on some components but not on others. For example, women's autonomy has improved, but no positive impact has been found on women's overall control over decision making (although there was a positive impact in the specific sphere of family-planning decisions). The impact of project participation was most clearly positive on women's relative access to household resources, as measured by the intra-household allocation of food and healthcare.

Overall, the impact of Grameen Bank on the relative well-being of women was positive in some dimensions of well-being but not in others. Two reasons can perhaps be cited for this partial nature of improvement. First, exposure to income-earning activities in a single generation cannot perhaps wipe out centuries of cultural conditioning. Probably that is why we did not find any positive impact of GB participation on perception variables (i.e. perceived contribution and perceived self-interest). Second, owing to their low absorptive capacity, i.e. their limited ability to utilise large volumes of credit in the prevailing cultural conditions and in the absence of sufficient economic opportunities, the borrower women are increasingly depending on their husbands in order to make better use of credit. A kind of joint enterprise is thereby emerging in which the wife provides the credit and the husband provides the entrepreneurship. Since this implies some loss of the woman's independence, her bargaining power within the household might not improve as much as it otherwise might have, were she running her own enterprise.

## References

- Becker, G.S., 1981, *A Treatise on the Family*: Harvard University Press, Cambridge.
- Chiapponi, P.-A., 1992, 'Collective Labour Supply and Welfare', *Journal of Political Economy*, Vol. 100, No. 31: 437–67.
- Haddad, L., J. Hoddinott, and H. Alderman, 1994, 'Intrahousehold Resource Allocation: An Overview', *World Bank Policy Research Working Paper*, No. 1255: World Bank, Washington D.C..
- Hossain, M., 1988, 'Credit for Alleviation of Rural Poverty: The Grameen Bank in Bangladesh', *Research Report 65*: International Food Policy Research Institute, Washington D.C..
- McElroy, M.M., 1992, 'The Empirical Content of Nash-Bargained Household Behavior', *Journal of Human Resources*, Vol. 25, No. 4: 559–83.
- Nash, J.F., 1950, 'The Bargaining Problem', *Econometrica*, Vol. 18.
- Pitt, M.M. and S.R. Khandker, 1996, 'Impact of credit programs for the poor on household behavior in Bangladesh', in K.A. Latif, S.R. Khandker and Z.H. Khan (eds.), *Credit Programs for the Poor: Household and Intrahousehold Impacts and Program Sustainability*, Vol. 2: Bangladesh Institute of Development Studies and the World Bank, Dhaka.
- Pitt, M.M., M.R. Rosenzweig, and M.N. Hassan, 1990, 'Productivity, Health, and Inequality in the Intrahousehold Distribution of Food in Low-Income Countries', *American Economic Review*, Vol. 80, No. 5: 1139–56.
- Rahman, R.I., 1986, 'The Impact of Grameen Bank on the Situation of Poor Rural Women', mimeo, *Working Paper No. 1*, Grameen Bank Evaluation Project: Bangladesh Institute of Development Studies, Dhaka.
- Sen, A.K., 1990, 'Gender and co-operative conflicts', in I. Tinker (ed.) *Persistent Inequalities: Women and World Development*, Oxford University Press, Oxford.
- Thomas, D., 1992, 'Intra-Household Resource Allocation: An Inferential Approach', *Journal of Human Resources*, Vol. 25, No. 4: 635–64.